Nitrate Protocol
Field Guide

Task

Measure the nitrate in your water sample.

What You Need

- ❑ *Hydrology Investigation Data Sheet*
- ❑ Nitrate test kit
- ❑ Latex gloves
- ❑ Clock or watch
- ❑ Goggles
- ❑ Distilled water
- ❑ Surgical mask (if using powdered reagents)
- ❑ Chemical waste bottle

In the Field

1. Fill out the top portion of your *Hydrology Investigation Field Sheet*. In the *Nitrate* section fill in the kit manufacturer and model.
2. Put on gloves and goggles.
3. Follow the instructions in your kit to measure the nitrate nitrogen. You should use the Low Range Test (0 – 1 mg/L) unless previous results indicate that your site typically has greater than 1 mg/L nitrate nitrogen. If using powdered reagents, use the surgical mask when opening these products. Use clock or watch to measure the time if your kit requires you to shake your sample.
4. Match the color of the treated sample water with a color in the test kit. Record the value as ppm nitrate-nitrogen for the matching color. Have two other students match a color with the treated sample water for a total of three observations. Record all three nitrate-nitrogen values on the data sheet.
5. Calculate the average of the three measurements.
6. Check to see if each of the three measurements is within 0.1 ppm of the average (or within 1.0 ppm of the average if using the high range test). If they are, record the average on the data sheet. If they are not, read the color measurements again (**Note:** do not read again if it has been more than 5 minutes). Calculate a new average. If the measurements are still not within range discuss possible problems with your teacher.